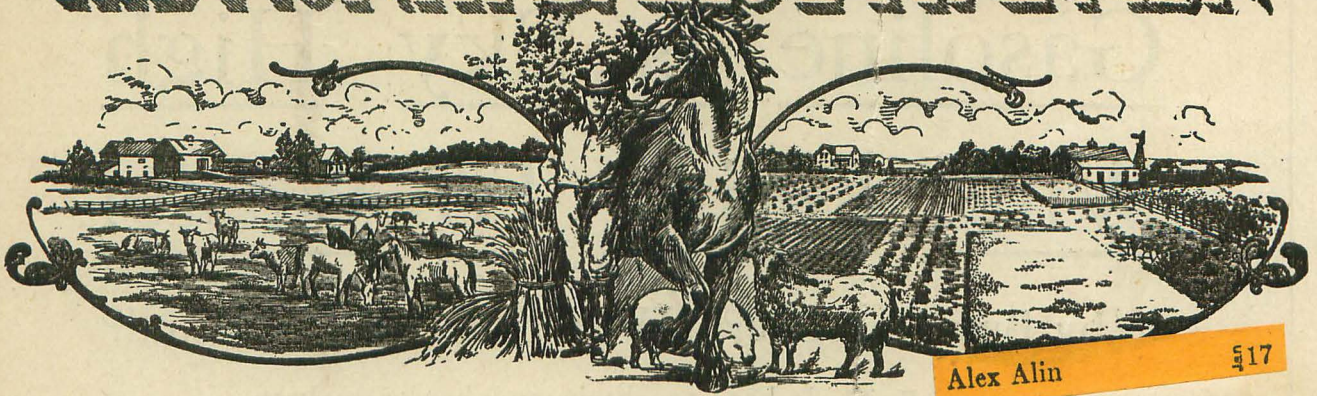


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THE NORTH DAKOTA FARMER



Alex Alin

517

50 Cents A Year

Lisbon, N. D.

September 15, 1916

Vol. 18, No. 3

Experience Teaches Us by Hard Lessons to Diversify



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NOTE THIS: You should place your order early. So great is the demand that you may be disappointed if you delay.

WIND ELECTRIC COMPANY

Wyndmere

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THE NORTH DAKOTA FARMER

Vol. 18 No. 3

LISBON and FARGO, N. D., SEPTEMBER 15, 1916

50 Cents a Year

Let Us Reason Together

WHY SO MUCH COMMERCIALISM?

FOR the very brief span of a human life and the belief in the immortality of the soul it seems strange that mere surpluse of money should absorb so much human interest. Think of the lying, hypocrisy, cruelty and deception that is carried on for the sake of gain, even by those who are near the end of life or who already have more wealth than they need.

Is the game worth the candle? Is it worth while to sacrifice honor and rob the honest toiler of the comforts his family is in need of for the sake of a larger bank account which has already outgrown every possible human emergency? Think it over.

No one will question the propriety of being diligent and practicing economy. These are commendable virtues, but what should be the goal? Is there no sane limitation? Shall we recognize that the province of Greed is to ply one's nefarious methods up to the very gates of death? Is there no way short of legal restriction to put an end to short measure and light weight artists, to adulterators of human food, to speculators in the necessities of life, to watering the stocks of railroads, manufacturing industries and other public utilities?

How about sweat shops, child labor and the thousands of mothers wearing out their lives to keep soul and body together? These must be pleasant dying thoughts for such as profit by their misery.

Legal restrictions, indeed! Why is it so difficult, almost impossible, to secure humanitarian legislation that affords even the shadow of a "square deal" for the most deserving class of our American citizenship? Simply because law makers as a rule are not in practical sympathy with the common people. Because Greed has the money and in its employ may be found cultured, refined and technically educated men from the country's most exclusive colleges and universities ready to show, wherever necessary,

how looting may be accomplished without punishment.

It is a lamentable fact that too much of the country's higher education is lavished upon the men who defend crooks and prepare "wood chucks" for laws intended for the general welfare.

There are able, upright, conscientious lawyers that are a credit to the profession. No one will question this statement. At the same time it must be admitted that in the calendar of misdemeanors and felonies no crook can fall so low but that he can secure his choice of legal defenders, provided he has the price. By defenders I do not mean that justice will be their

"Wanted, men:

Not systems fit and wise,

Not faiths with rigid eyes,

Not wealth in mountain piles,

Not power with gracious smiles,

Not even the potent pen;

Wanted, men."

laudable aim, but **acquittal** by every dodge, delay and quibble that a technically trained mind can invent.

And all for money, and in most cases for money that is not needed for comfort, but as a prize for playing the money game.

Does it pay?

If it is wrong it does **not** pay. If it is right then we have bothered entirely too much with such foolishness as religion, civilization and the humanities. If greed is a virtue, too many lives are being hampered with the delusion that decency and common honesty should be emphasized for the sake of righteousness and the general good. Otherwise they, too,

might rank among our successful citizenship.

It is becoming more and more evident that the activities of the state must be enlarged or money foundations and piratical corporations will govern the country. It is a question whether they are not already in the saddle and that the people's power, owing to the facility with which unscrupulous politicians can divide their strength among parties, is naught but a myth. When, therefore, the people appeal to the party leaders in vain they will, in self defense, appeal to the state. Paternalism, therefore, is the antidote of corporation greed and capitalistic insolence—the rights of the people absorbed by a moneyed oligarchy. The latter condition breeds revolution and paternalism is revolution, without the use of violence.

The way to avoid paternalism, therefore, is to open the doors of opportunity and keep them open; to establish and maintain economic justice for the laboring class.

To no class in this nation can both capitalist and laborer appeal with such assurance of justice as to the farming population. Why, do you ask?

Because the farmer is both a laborer and a capitalist. As a referee between capital and labor, his own interest demands justice for both, rather than advantage for either. There is every reason, therefore, why farmers should organize and co-operate in politics as well as in business—not dirty politics of the prevailing brand, but honest politics; nor engage in crooked business that prospers at the expense of honorable toil, but business that is predicated upon equal and exact justice to all.

The natural resources of the country are sufficient to supply the wants of all, provided a few are not permitted to hog the major portion of it.

The nation's timber and minerals are pretty well coppered by the "big interests" already and what is left of the water power is in jeopardy. The people's representatives, many of them, seem inclined to deliver what is left of

"God's benediction to humanity" over to corporate interests, leaving only the air that may be breathed without making a contribution to some gigantic corporation.

Shall the people or the corporations govern the country?

It is up to the people to answer.

POSSIBILITIES OF AN AGRICULTURAL STATE AND ITS MEANS OF DEVELOPMENT

THE agricultural possibilities of a state cannot be accurately measured by its pioneer accomplishments. The pioneer, partly from necessity and partly as a

ure, can be renewed, even tho the process be a costly one.

Nature is Beneficent

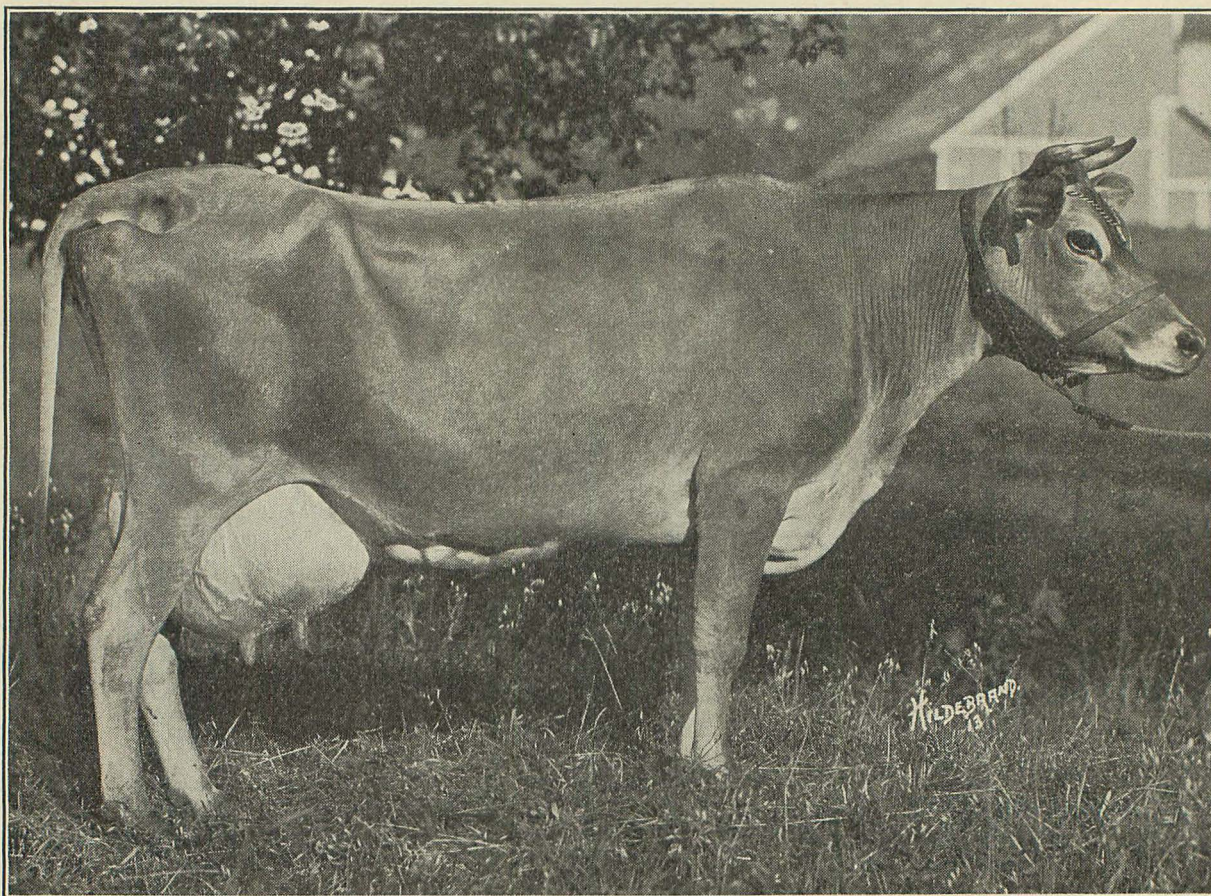
While Nature is thus beneficent in making it possible for one generation to correct the evils wrought by its predecessor, yet the economic loss to the commonwealth which this process of pioneer exploitation and subsequent restoration involves, must be apparent to every lover of his state. It represents destructive waste by one generation that must be cured by the patient sacrifice of another.

It may well be questioned whether a man has a moral right, thru extravagance or reckless farm management, to bequeath the necessity of a

remedy the evil that is wrought.

Farm Management A Vital Problem

Food and clothing the world must have, both in ever-increasing quantities and of improved quality, but since the productive area of the Nation is limited—is practically occupied already—the skillful management of farm lands becomes at once the most vital problem that confronts the American people. Urgent as is the necessity for conserving the remnant of standing timber, of coal and iron and oil and water power, yet the conservation of our soil overshadows every other state or national interest. For such things as timber, coal, iron, etc.,



Farmers: Take me and make use of me, I'm Rust Resisting and Soil Enriching

matter of convenience, is, with few exceptions, an exploiter. He homesteads virgin soil which Nature, thru countless ages, has enriched with the essential elements for the production of bountiful crops. This was true of every section of our vast country from the Atlantic to the Pacific, but like the minerals in the earth, every draft made upon these soil elements diminishes the original supply, with this exception: the minerals cannot be restored, while the fertility, at least in a meas-

curative sacrifice upon his future neighbor. The soil unquestionably belongs to future generations as certainly as to the present generation—to the children as well as to the parent—and hence, the farmer that despoils the land by starvation, by noxious weed, or foul fungi is a detriment to his country. Certainly it would require a big stretch of charity to label him a blessing. In this, as in law, ignorance cannot be pleaded as an excuse, for no mere excuse can

substitutes, in a measure at least, may be found; but there can be found no adequate substitute for bread and meat. Present and future generations always must look to good old Mother Earth for their food supplies. But Mother Earth must be nourished as well as nourish.

Population Racing with Production

Increasing population has already entered the race with agricultural production, with the latter only a few

laps in advance. A fruitful year sees a fair gain for the food supply, while the effects of a single bad year are already noticeable. The margin of the world's food supply is not large at any period. Moreover, future needs can place but little dependence upon increased acreage. The world's chief reliance for food and clothing, therefore, must be in improved farm management. Fortunately for North Dakota and the Northwest generally, we have not yet, to any alarming extent, impaired our one great patrimony. Tho the tendency to imitate the agricultural profligacy of every new country is strong, and while we have in many ways set a rapid pace in soil exploitation using the land as a miner uses his mine, instead of as a farmer should use his farm, yet such is the strength of our soil and the in-

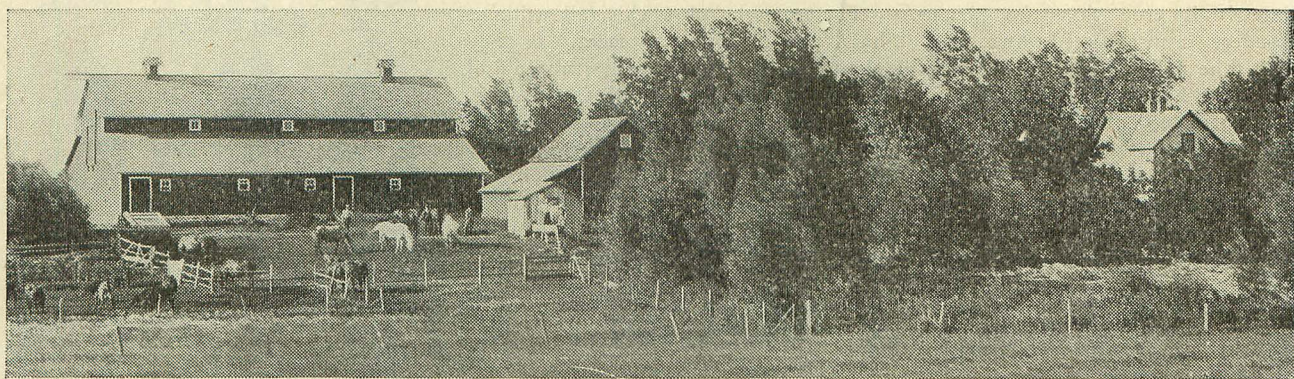
winter when wheat was ~~ELLENDALE~~ ~~NORTH DAKOTA~~ great as they were last. We can take this to mean that prices of farm products will maintain a high level until the next crop is marketed. We can also deduce from these statements that farmers will get good prices for their next crop because of the small surplus.

It is extremely unfortunate that farmers are in the habit of or from inevitable necessity have to market their crops as soon as harvested. In many instances farmers' notes are drawn to mature about the time the crop is threshed and in others they have not the facilities for storing their grain on the farm. These are some of the reasons why wheat is thrown upon the market in such tremendous quantities early in the season, hence speculators are encouraged to force the price down until the bulk of it is marketed.

If farmers were to provide storage

It is further reasonable to assume that a bumper crop next year will not materially lower the high prices.

Putting off plowing that can be done this fall until the spring may mean a still further curtailment in the crop production of next year. No one can prophecy what kind of weather we will have. It may be wet or it may be a dry Spring. If the season happens to be wet as it was last spring the chances are very much against the farmer getting all of his plowing done. If he should, he cer-



Somehow the Sheltered Home and Well Housed Livestock are the Signs of a Prosperous Farmer, Whatever the Season

telligence of our citizens that no grave fears need be entertained of ultimate soil impoverishment. Warned by the experience of other states, which, coupled with far-seeing self-interest, if nothing else, these should provide a remedy.

WHERE THE FARMER LOSES

DURING the past year this country furnished Europe with more than a billion dollars' worth of foodstuffs. In this there was considerable profit, but to know how equitably the profits were shared between the producers and speculators would prove interesting if it could be accurately stated. One thing is certain, the conditions that have raised the price of farm produce also have raised the price of farm machinery and everything else the farmer has to purchase.

"The Farmer and Breeder" for June says: "The bulk of the wheat crop was marketed here last fall when the farmers had to sell at 85 to 90 cents per bushel. One time the past

for their wheat and throw it upon the market gradually it doubtless would insure more stable prices. This they could do if money could be borrowed when needed at reasonable rates, giving the stored grain as security.

Under any circumstances dumping wheat on the market in large quantities is bad policy and farmers should provide against the necessity for doing so.

The tremendous profits made by speculators last year should induce farmers to provide against a similar contingency this fall.

The strongest argument for co-operation in the distribution of farm products arises from conditions here recited, but which never can be remedied so long as farmers manage their business individually.

FALL PLOWING

Reports coming in from different sections of the country indicate that the amount of fall plowing done this year is about one-fifth of what it was last year at this time. It is also estimated that the total crops for this

tainly will not have the proper time to compact the ground into the proper seed bed for Spring sown crops.

On account of the wet and lateness of last spring thousands of acres of good farm land in the United States did not turn the owners one cent in revenue because of their inability to plow them. These patches of land are growing a bountiful crop of weeds. Farmers will be disappointed in the crops they hope to grow on these fields unless they prevent the weeds from getting the start of the crop.

Another phase of extreme importance in plowing this fall is that the ground will be in much better shape for nature to pack it during the winter's freezing. The late fall rains tend to percolate deeper into the ground, thus holding more moisture.

Another benefit of early fall plowing is that the ground has the advantage of being aerated at a time when the air will do the most good. Warmth must be connected with the circulation of the air around the soil particles if the greatest benefit is to be derived.

Scientists have demonstrated that

nitric acid will not develop below 41 degrees Fahrenheit. It is hardly noticeable at 54 degrees and becomes most active at 98 degrees.

From these facts we can readily deduce that ground plowed at a temperature below 41 degrees is not being benefited to any great extent by the circulation of air. One of the important benefits of aerating the ground is getting the nitrogen from the air in the soil where it can be utilized in the formation of plant food, consequently, plowing when the temperature is below 54 degrees is not the best time for plowing the soil. Practically 97% of all materials from which nature builds the tissues of her plants are taken from the air. These facts make it plain that the ground should be plowed when there is warmth in the air. For this reason farmers should not postpone their fall plowing until it gets too cold.

While it is true that the farmer does severe injury by plowing when too dry, the fall rains that have recently fallen have put the ground in ideal condition for plowing, much better than it has been for years for the simple reason that there is not too much moisture in the ground to interfere with the proper aerating while plowing. Farmers who take it upon

themselves to get into the field as soon as possible and plow the ground while it is in the present moist condition, will be greatly surprised at the quality of the crops they will grow on this land next year.

Farmers who fall-plowed last year when the ground was in the wet condition, complained, that their crops this year were lighter than they should be.

This can largely be accounted for on account of the excessive moisture in the ground last fall, winter and spring. It is reasonable to assume that nature could not make the proper plant food when it was needed on account of the superabundance of moisture. It is also reasonable to assume that much of the nitric acid necessary in the formation of plant food was washed away and formed into other compounds, making it unavailable for the plants.

Farmers who plow this fall will not have this condition to meet. If they plow deep, bury all trash, stubble and weeds at the bottom of the furrow, they will be doing themselves the greatest possible good that can be done. They need not fear that bumper crops next year will eat into their profits because there will be a demand for all they can grow.

Worthless Weeds

Findings of the Experiment Station

WEEDS HARBOR INSECTS

According to the U. S. Department of Agriculture, getting rid of grass, weeds, and undergrowth about the farm during the fall and early winter is one of the best protective measures the farmer can use against crop-damaging insects the following year. Weeds, matted grass, dead vegetation and brambles along fences, roadsides, margins of fields, banks of little streams or ditches, especially in irrigated territories, are the natural hibernating and often breeding places of many destructive insects. This vegetation gives grasshoppers, chinch bugs and other insects most favorable conditions for reappearance the fol-

lowing spring and summer. Similarly, voluntary growths of wheat harbor the Hessian fly; while stray alfalfa plants in the fields and around them may be the source of the incursion of grasshoppers. The Hessian fly in the absence of volunteer wheat at times lays its eggs on the young crab grass which may spring up in the fall after a tract has been burned over. At present, in some parts of the country, the late-sown wheat is being infested by Hessian flies that have developed in and spread from volunteer wheat. Late sowing cannot be expected to protect winter wheat from attack in spring if volunteer wheat has been permitted to grow up either in nearby fields or among the late-sown grain.

Grasshoppers lay millions of eggs along the banks of canals and ditches in the western country. Chinch bugs hibernate in bunches of broom sedge, and many other destructive pests could not endure the winter were it not for these natural nurseries.

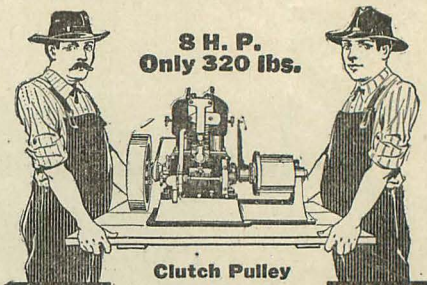
The entomologists therefore recommend to farmers that they fall-plow sod lands intended for other than grass crops another year, and clear up roadsides, fence margins and all

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40 to 60 lbs. Per Horsepower

The 4 H. P. weighs only 190 lbs. Mounted on iron truck, as shown below, it may be pulled around anywhere. Besides doing all other work, it may be attached to moving machines in the field, such as grain and corn binders, potato diggers, etc., driving the operating part and leaving the horses nothing to do but pull the machine out of gear. 8 H. P. 2-cyl. weighs only 320 pounds.

Sizes up to 20 H.P. Not cheap engines, but cheap in the long run. Book free.

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waste lands, ditch banks and similar places by burning over, pasturing, or in case of ditch banks, by plowing or disking in the fall. This will tear up the roots and expose the eggs of grasshoppers to the excessive moisture and cold of winter and will also turn up those insects which hibernate in the ground. Burning vegetation where possible will destroy many insects, tho, in the case of grasshoppers, it probably will not be as effective as cultural methods. In addition, cultural methods by turning humus into the soil benefit the land.

Sheep, of course, are the great enemies of weeds and where sheep can be turned into a field, or a flock herded along the roadside, they will effectively clear up waste vegetation and in addition the trampling of their feet will destroy many insects. The sheep at the same time turn waste material into mutton and all they require is a profit, but the entomologists hold that even if they merely pay for the extra grain they eat their function in destroying weeds and keeping down insects makes their use well worth while.

In many places community action in destroying weeds is necessary, as it may not be profitable for the farmer to clear his side of the road if the other side is allowed to remain a harboring place for pests. In such cases it might well pay the community to get sheep co-operatively and use them to clean up the weeds of the entire section.

GREEN FOXTAIL

Gren foxtail commonly called pigeon grass is one of the very troublesome weeds. It starts at any time during the growing season and produces seed in a very short time. An experiment was made at the North Dakota Experiment Station as follows:

Equal quantities of green foxtail seed were planted at depths of 1, 2, 3, 5, 7 and 10 inches on October 17th. The next May 12, 1104 of the one inch planting and 366 of the two inch planting were up. By June 5, 190 more of the one inch planting and 140 of the two inch and 169 of the three inch planting were up. No more came up during the summer nor did any come up the next year. At the end of five years a very few of the 5, 7 and 10 inch plantings were alive. It was also found that the seed produced in the summer would not grow before the next year and under favorable conditions they will grow in May. The eradication of the green foxtail or pigeon weed can be accomplished by making the conditions favorable so

that the seed can germinate in May and then kill the small plants, most of which will be shallow rooted.

WILD OATS A BIG TAX

Wild oats are costing North Dakota farmers a good many million dollars a year. The grain as it comes from the machine contains a good deal of wild oats. This does not represent all the wild oats grown as a large part of them shatter before the grain is harvested. The space occupied by wild oats might just as well be growing

grain. At the elevator the grain has to be docked on account of the wild oats. The wild oats are reducing the yields, in some cases one-half or more. This is a terrible tax yet it is paid every year on many farms.

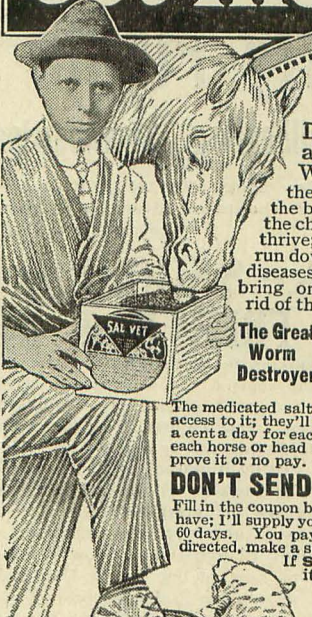
In continuous grain growing wild

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SAL-VET

The medicated salt without Antimony. Give your animals free access to it; they'll rid themselves of worms. Costs only 1-12 of a cent a day for each sheep or hog and only 1-3 of a cent a day for each horse or head of cattle. **SAL-VET** will do the work; I'll prove it or no pay.

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Fill in the coupon below—tell me how many head of stock you have; I'll supply you enough **SAL-VET** to last your animals 60 days. You pay the freight when it arrives; feed as directed, make a specific report at the end of 60 days. If **SAL-VET** does not do what I claim it will cost you nothing.

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We are in the market for a few cars of choice

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Fargo,

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20 Fall Bearing Strawberry Plants FREE!

- - and the Latest Book on Fallbearing Strawberries

This entire collection of Twenty Plants, and the New Book, \$500 AN ACRE from FALLBEARING STRAWBERRIES will positively be sent FREE and POSTPAID to every reader who takes advantage of our Special Offer. The Plants will be sent at the right time to set out in the Fall.

The Twenty FREE Plants are made up in the following assortment only, and cannot be changed, as to varieties.

5 Superb (Perfect). The best and most profitable of the Fallbearing sorts also yielding good crops in June, after fruiting the previous Fall. Plants are strong, and stand the winter well, after producing a heavy crop of fruit from about August 15 to November 15.

5 Progressive (Perfect). Not so large as the Superb, but of the choicest Quality, and an immense yielder. Fruit bright red and smooth. The plants are vigorous and healthy, much like the Dunlap. Blooms well protected by foliage and give good long pickings.

5 Americus (Perfect). Plants are fine growers and they produce abundantly. Berries are medium to large in size, of regular shape, and very beautiful. The fruit is of the finest flavor, and a favorite everywhere. One of the most profitable of the Fallbearing Varieties.

5 Unnamed \$1000 Hybrids Single specimens of New Varieties, as yet unnamed, which have shown great promise, and upon the introducers place a high valuation. They are offered for trial and experimentation. From these valuable Hybrids YOU may develop some valuable new varieties of Fallbearing Strawberries.

The Twenty Plants, carefully packed in moss, will be sent to you direct from one of the largest nurseries in the United States, in time to set out in the Fall. They will bear lots of choice fruit next Fall, and you will have hundreds of plants to set out and to sell.

Send Coupon Today ➡➡

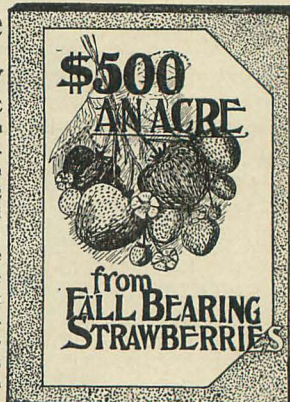
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Make \$500.00 an Acre This FREE Book Tells How

This booklet is given FREE with the Twenty FREE Plants, and contains the most up-to-date information on growing and propagating the Fallbearing Strawberry. You can make these Twenty Free Plants form the foundation of a profitable business by setting them out as a "Propagating Bed" and raising hundreds of plants for future planting and for sale. The Booklet tells you how to do it. It tells you how to Prepare and Fertilize the Soil, how to set out the Plants, how to obtain the most plants from each of the Twenty FREE Plants, how to Grow Berries of the Choicest Quality, and how to Set out a Commercial Plantation. If you are interested in Fallbearing Strawberries, you need this book, and you can get it, with the Twenty FREE Plants by simply taking advantage NOW, of our liberal subscription offer.

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Gentlemen:—Please send me, in time for planting this Fall, your collection of Fallbearing Strawberry Plants, as follows: **5 Superb, 5 Progressive, 5 Americus, 5 Unnamed \$1000 Hybrids**, and a copy of the New Book, \$500 AN ACRE from FALLBEARING STRAWBERRIES.

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oats usually becomes worse year after year. When crops are rotated the wild oats have to go. To get rid of wild oats get them to grow and then kill them before they produce seed. The cultivated crops and hay crops are death to wild oats if well handled. Rye is also a good wild oat-killer and late sown barley on late spring plowing ripens about as early as the wild oats so that about all of them will be in the barley. Another point in wild oat eradication is that if only one side of the furrow slice is cleaned they may be as bad as ever if the other side is turned up the next year. It has been found at the North Dakota Experiment Station that wild oats buried 6 inches deep for 5 years will be all dead. This means that land that has been in hay or pasture for five years will be free from wild oats, unless some blow in on it.

TO KILL FRENCH WEED

French weed is troublesome in some places. L. R. Waldron, while at the North Dakota Experiment Station, in his investigations of this weed, found that of the French weed seeds even when sown in the spring, but few grow before fall. They live over winter and make a rapid growth in the spring. It was found that in the case of fall plowing, thoro working of the soil to kill the weeds that lived over winter, resulted in a field practically free from the French weed for that year.

WILD MUSTARD

Wild mustard is a weed that is quite persistent thru its seed being able to lie in the ground a long time before rotting. The eradication of mustard requires that the seed be given a chance to grow and that it be then killed before it produces seed.

Summer fallowing is a good way to clean one side of the furrow slice. When the land is plowed a new batch of seed is brought up. Any crop that is cut for hay is good for killing mustard as it is cut before the mustard goes to seed. Grain crops are mustard breeders as they are cut after the mustard has ripened and shattered its seed. Crops such as corn and potatoes are good for cleaning out mustard if they are given thoro cultivation. It will require some hand pulling to clean a farm from mustard. Even when the work has been thoro a few plants will show up.

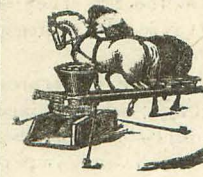
WHEN TO USE THE ROAD DRAG

To secure the best results with the road drag it must be used at the right

time. D. Ward King, the inventor of the split-log drag gives the following directions as to the time of using the split-log, drag.

"The drag does the best work when the soil is moist, but not sticky. The earth then moves freely along the faces of the slabs. If the roadway is very badly rutted and full of holes, it may be well to use the drag once when the ground is slushy. This

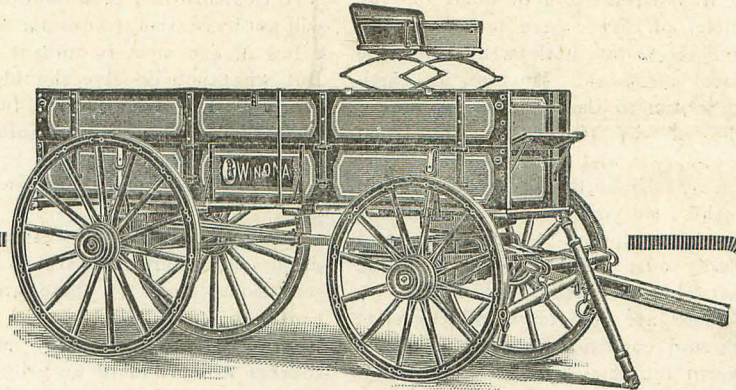
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Feed Grinder for gas engines. We also have gas engines, cream separators, manure spreaders, vehicles and harness. Ask for our low prices; they are free.

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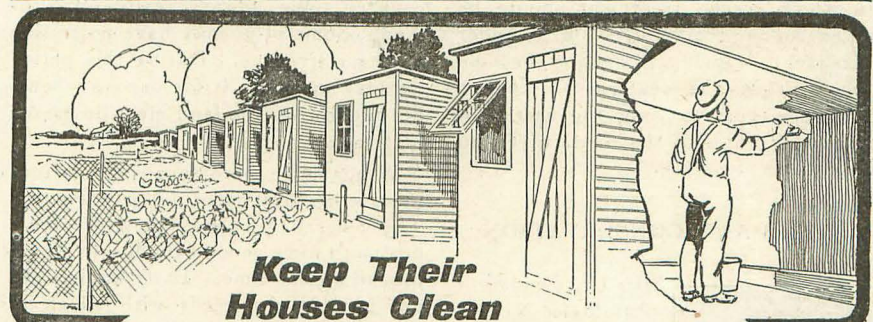
THE Winona is the strongest, lightest-draft farm wagon you can buy. Axles won't break—rims won't split—hubs won't check—boxes will stand the siege of steady use. If you want a fine-looking wagon that will give you uncommon length of service, see the Winona.

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BUILT from tough, solid, "bone dry," seasoned timber—ironed with extraordinary care. Outer Bearing Axles, full Clipped Gear, Riveted Bent Felloes. Strongest Skeins, Poles and Hounds. Boxes extra cleated and braced. Comfortable Seats. Durably painted with best quality paints.

Write for Catalog F showing many exclusive features of the Winona.

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Keep Their Houses Clean

Mites and lice breed by the millions these early fall days. Don't let them get a foothold in your growing flock—the birds you expect to lay high-priced eggs this winter. Make their houses bright cheerful and sanitary and prevent the existence of all vermin and disease germs by painting and disinfecting at one operation with

CARBOLA
The Disinfecting White Paint

A snow-white mineral paint combined with the world's most powerful germicide. Ride the premises of vermin, yet cannot harm the birds. Comes in powder form. Mix with water and it is ready to use. Can be put onto any surface with brush or sprayer.

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treatment is particularly applicable before a cold spell in the fall when it is possible to have a roadway freeze smooth.

"A smooth road surface is secured by this method. Clay, when mixed with water and thoroly worked, becomes remarkably tough and impervious to water. If compacted in this condition it becomes extremely hard."

"Another valuable result of dragging is the reduction of dust, for the particles of clay cohere so tenaciously that there is but little wear when the surface is smooth. Dust on an earth road is due to the breaking up under traffic of the frayed and upturned edges of ruts and hoof prints. If the surface is smoothed after each rain and the road dries hard and even, no edges are exposed to crushing and the only dust which forms is that due to actual wear of the road surface."

"There are so many influences at work and conditions are so varied in different localities that it is quite impossible to lay down a general rule for the number of treatments needed to keep a good road in good condition. A tough clay or a stiff sandy clay will resist the action of wheels and hoofs for a longer period than a loam, other things being equal."

"Certain sections of a roadway will require more attention than others because of steep grades, seepage, exposure to hillside wash, etc. The best guide in meeting these conditions is the knowledge and experience gained while dragging the roadway."

"There is one condition, however, in which special treatment should be given to a road. Clay hills under persistent dragging frequently become too high in the center. To correct this it is best to drag the earth toward the center of the road twice and away from it once."

WEEDS AND CONSERVATION



Miss Ura Leader
Ruraldale, N. D.
Dear Miss Leader:

I suppose that before this time you have begun your school work for this year. I expect that you want to make progress in your work and that you will emphasize more than ever, the subject of agriculture.

Agriculture may be made a very important subject in your course of study. It is not narrow, nor is it in any sense uncultural. Agriculture has a well-recognized educational value. A knowledge of this subject is vital to the young people of the state. The practice of

agriculture is based on the different sciences, hence it may be made a good science course.

Most of the young people now growing up in the state will make their living in some phase of agriculture. These future citizens should know something of their future occupation. It will not detract from good citizenship, and it will not detract from the value of the courses given.

Agriculture is a broad subject. You will not have time to consider more than a few of the most important subjects. But what you do give should be done thoroly. I will be glad to furnish information, and sources of information, during the year. Do not hesitate to write for such help as we are able to give.

I believe that the subjects you are to discuss this month are Weeds and Conservation. Both of these are important topics.

North Dakota has many natural resources which should be properly conserved. She has an immense supply of coal, a great deal of natural water power, a small amount of timber, valuable clay and other mineral deposits, and an exceedingly rich and fertile soil. It might be well for you to consider primarily the conservation of the soil. Soils grow poorer or better, according to the methods of cropping and tillage. Certainly some of our soils have been quite seriously damaged during the past twenty-five or thirty years.

I hardly believe that it is just or right for any people to carelessly use up the natural resources of any part of the country. We do not really own the land. Some of us may have possession during a lifetime. During this period we may cultivate it for our own benefit, but in time the land must be passed on to someone else.

Weeds have become a very serious menace in many parts of North Dakota. The general prevalence of weeds must be due to some general conditions which prevail at this time. Early settlers did not have many weeds with which to contend. But now most farms are thoroly infested, with dozens of different kinds of plants which reduce the grain yields and make farming more difficult.

The economical control of weeds on the farm must, therefore, be considered one phase of crop management. The control of weeds should then be considered a part of cropping methods. No one can afford to stop farming for a year or two in order to kill the weeds. They must be kept in check and at the same time fair crops must be produced.

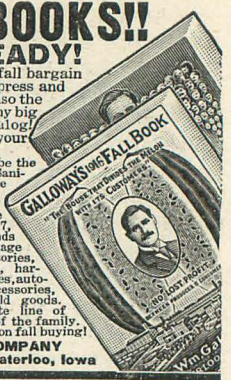
Weeds are found under all conditions, and types of soil. Certain kinds grow in dry sandy soil; others grow on wet heavy soil. Some grow in grain, some

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My new 100-page fall bargain book just off the press and ready to mail! Also the second edition of my big 250-page 1916 catalog! A postal gets your copies today.

These books describe the famous Galloway Sanitary Cream Separators, the Galloway Gasoline and Kerosene Engines, the new modern Galloway Manure Spreaders, our New 1917, 12-20 H. P. Tractor, all kinds of farm machinery, ensilage cutters, power house accessories, grinders, buggies, wagons, harness, fencing, roofing, saddles, automobiles, stock tanks, auto accessories, sewing machines, household goods, carpets, furniture, complete line of clothing for every member of the family. Write now! Save \$200 to \$500 on fall buying!

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Trap resets itself; 22 inches high; will last for years. Can't get out of order; weighs 7 pounds. Twelve rats caught one day. Cheese is used doing away with poisons. The trap does its work and never fails and is always ready for the next rat. When rats and mice pass the device they die. Rats are disease carriers; also cause fires. These Catchers should be in every school house. Rat Catcher sent prepaid on receipt of \$3. Mouse Catcher, 10 inches high, \$1. Money back if not satisfied.

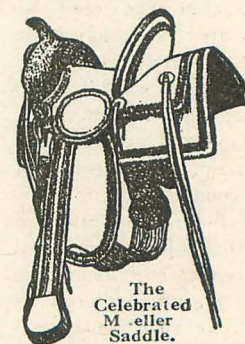
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Mfrs. of Justin's Celebrated Cowboy Boots. NOCONA, TEXAS

in wheat, some in flax; and still others do best in pasture or hay fields.

Weeds have many serious disadvantages. They injure our livestock, they injure the quality of dairy products. They make farming more difficult. They reduce crop yields. They make the product less valuable, and some weeds poison livestock.

Different plants become weeds, due to some peculiarity of growth. A large purslane plant will produce as many as 1,250,000 seeds. Some weed seeds possess great vitality. It is positively known that mustard seed will retain its ability to germinate as long as twenty-five or thirty years when buried in the soil. Many seeds ripen their seed and scatter it before the crop is ripe. Some weeds spread by underground parts, and are scattered by tillage implements. Some weed seeds will not germinate the same year they are produced. There are several other reasons why certain plants become weeds, but I believe that most of them will readily suggest themselves to you.

Weeds are introduced in many different ways. It is necessary to stop introducing a new supply of seed before the work of eradication is begun. Weed seeds are introduced in many of the farm seeds. Some are blown long distances thru the air. They are scattered by livestock and birds. They are brought in by threshing machines and are scattered in seed and litter. Some weed seeds float in on water, and many kinds blow in on the snow.

In studying weeds, it is well to classify them according to the length of time which they live. Some weeds live only one year, produce seed and die. Other weeds will grow two years before producing seed. Still other weeds live three or more years. The weeds which live but one year can be easily controlled by preventing seed production, and by getting rid of the seeds which are already present in the soil. The weeds which live two years are not very destructive in any field under cultivation. The weeds which live many years are the serious ones. Many of these weeds are propagated not only by seed but also by underground portions. For example, Canada thistle, quack grass, sow thistle and bind weed.

This last group of plants are extremely difficult to clean out, since it is necessary not only to prevent seed production, but also to kill the underground portions.

It might be well to have your students collect some of the more common and destructive weeds for identification. They can then be grouped into different groups, according to the class to which they belong. Methods of identification might be taken up. And lastly, it

would be well to study methods of eradication.

There are many good bulletins on all the subjects mentioned in this letter. It will be easy for you to get information. Do not hesitate to ask for such help as we are able to give. For we are vitally interested in having your work a success.

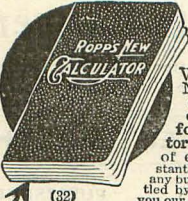
Very sincerely yours,
O. O. CHURCHILL.

WEEDS USE WATER

A large weed may use as much as a barrel of water. A plant weighing one pound when dried has used up 700 to 800 pounds of water in making its growth or 70 to 80 gallons making nearly two barrels. From this it is plain that cutting down weeds is a very good way of saving moisture for the crop.

As a rule young sows that do well with their first litters may be considered good brood sows.

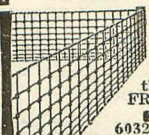
The natural curve of a horse's neck is better than the artificial position made by the check rein.



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What provision is now made for transportation of pupils?
How pupils may be compelled to attend school?
Whether children may be employed in stores and factories?
How a certificate may be revoked?
What the law is regarding drinking cups, fire escapes, hitching posts, school libraries, pension fund, accredited diplomas, etc.?

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Lisbon, N. D.

J. H. WORST, : : **EDITOR**

BUSINESS MANAGEMENT, LISBON, N. D.

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Vol. 18 SEPTEMBER, 1916 No 3

A soil without humus is akin to a
body without a soul.

Honesty should not be a handicap
in politics or in business.

With many products how to sell is
a matter of equal importance with how
to produce.

"In the final analysis, no one is go-
ing to solve the farmer's problem for
him."—McVey.

In order to make a success with
livestock, one must buy right, feed
right and sell right.

Cost of production usually increases
with the age of the animal and also
the animal approaches ripeness.

When a bumper crop brings less
money than a much smaller crop
there is a screw loose somewhere.

A little money received monthly will
go farther than the total amount re-
ceived in a lump sum, once a year.

While a well-balanced ration is de-
sirable a proper balance in cost as
well as in food constituents should be
looked after.

The Equity Society is to be com-
mended for its long hard fight for an
independent grain market, but it owes
its success to its own persistent
efforts.

Vocational education is a dire
necessity for the great mass of in-
dustrial workers if our country expects
to hold its place in competition with
other nations.

A blacksmith recently remarked that
he had never worked at his trade in a
community where livestock was given
prominence but that he could readily
collect his bills.

Fifty years ago two-thirds of our
population resided on farms. Today
only about one-third live in the coun-
try, and yet farming is an easier
proposition than ever before. Then
why this drifting away from the
farms?

Common sense applied to farming
is simply the cutting out of the things
that trial has proven unprofitable or
wasteful, and substituting something
that we have reason to believe will
work out better for us considering our
individual circumstances and condi-
tions.—Twichell.

Correspondents of the Bureau of
Crop Estimates give an average value
of farm lands in the U. S. of \$45.55
last spring as against \$40.85 a year
ago. In the agricultural group com-
prising Minnesota, Missouri, Iowa, the
Dakotas, Kansas and Nebraska the
average for plow land is \$69.00, and
for all farm lands, including improve-
ments thereon, \$78.00 per acre.

In 1900 the census gave the aver-
age value of farm lands as little over
\$15.00 an acre.

When the rural community en-
courages home amusements by local
talent, the boys and girls have for
less desire to leave the open country
for city jobs.

So many men who have attained
eminence or near eminence fondly
boast of the fact that they were born
and reared on the farm. What the
country needs most is eminent men
willing to remain on the farm more
who leave it temporarily to represent
their fellow farmers' and other busi-
ness interests in the halls of legisla-
tion or in executive positions.

Rural communities should take as
much pride in the general appearance
of their country homes as city people
do in theirs. Trees, shrubbery and
flowers, the planting and care of
which require but little time and ex-
pense, go a long way toward making
living worth while. A farmstead thus
beautified indicates comfort, content-
ment and culture. It also adds in-
trinsic value to the farm. Prospec-
tive home seekers are attracted to-
ward such communities and will pay

an extra price for a home among
neighbors of that kind.

It's a big thing to be a great fi-
nancier. In fact, strenuous efforts
have been made in the past and, es-
pecially in the present, to endow the
great financier with a sort of halo en-
titled him to veneration. Neverthe-
less, throwing open the doors of op-
portunity and inculcating the doctrine
of thrift so that millions may live
well will accomplish more for the
country than the lauding of million-
aires. It is not so much what a man
has got, but how he got it, that con-
cerns the average man. God evi-
dently intended that all His children
should live in comfort and happiness
and made provision accordingly; but
"cutting melons" seems not to have
been included in the Divine plan.
The country people themselves must
work out their own civilization—
Arnold.

A TIME TO BE OPTIMISTIC

We place the stamp of our approval
upon the following editorial of the
Fargo Searchlight:

The poor crops of Minnesota, North
Dakota and South Dakota is an un-
fortunate condition of course, but the
people should not be pessimistic or
blue. While we will have to limit ex-
penses somewhat, we are at the be-
ginning of a sounder foundation for
future operations on the farm.

In the seventies, Southern Min-
nesota had three crop failures in suc-
cession, the first one being well on
a par with the present condition of
crops in the three states just men-
tioned. At that time the farmers in
that section of Minnesota had paid
but little attention to diversified farm-
ing. The crop failures compelled
a change; and inside of five years
after the crop failures, the people
of that section were on the high
road to success thru diversified farm-
ing, and have been ever since.

North Dakota is now at the bot-
tom rung of the ladder that leads
upward to successful diversified farm-
ing. The people will adopt diversi-
fied farming now with enthusiasm, and
subdivide the farms so that they can
handle them. While the poor crops
this year must necessarily curtail ex-
penses and to some extent perhaps
temporarily embarrass some of the
people, yet they are opening the door
to assured successful farming hereafter,
and in consequence optimism should
prevail, instead of pessimism. At no
time has the Red River Valley and
North Dakota generally seemed more
inviting to the writer, than now.

Livestock Department

FARM AND STOCK NOTES

N. J. Shepherd

Generally, large coarse looking sheep are not desirable.

Stirring the cream frequently while ripening will make better butter.

Colts should be well-accustomed to eating grain before being weaned.

As a rule with the brood sow evil tendencies grow with her age.

A big strong mare is essential to the production of a heavy draft colt.

In many cases sluggish horses are made so by the way they are handled.

Two horses, altho of equal size and appearance may vary greatly in strength and endurance.

It is better to make a real success at one thing than half way successes at several things.

While it is always an item to feed well, young pigs may be easily stunted by overfeeding.

Never raise to maturity fowls that are of slow growth, ill-shaped or have any serious defects.

An overripe churning of cream is a bad foundation to begin with in trying to make a good article of butter.

Generally a sow does her best service with her second litter and from that on until she is six years old.

For all-around farm work the horse that is low down and compact is better than the one that is long-legged.

If two rams can be kept together it is better. The ram is a sociable critter and likes company.

A well-mated team means mated as regards strength and endurance rather than size and color.

It pays less to handle an inferior class of horses than any other kind of livestock.

In salting, the buttermaker must be guided by the tastes of those who buy his butter.

As a rule, other things being equal, of two animals, the one which is the better feeder will be the more profitable.

To ascertain whether the action is true and straight, stand behind the horse as he walks or trots away from you.

The restless spirit of the growing colt is guarantee enough that plenty of exercise will be taken if the opportunity is afforded.

It is not always the quantity of land one has, but the way it is used or handled that counts most for success.

Foods rich in albuminoids give more lean than those rich in oil. Yet a combination of these foods makes healthier hogs and better meat.

While much depends upon the training of a horse as to whether he is a fast walker or not there is much in the breeding.

In order to please the customer best good butter should be solid from the time it leaves the butterworker until it is consumed on the table.

Bodily strength and vigor in animals is increased by the amount of food absorbed beyond the waste of muscle and tissue consumed in maintaining locomotion and life.

While nearly all plants root best in spring, there is no month in the year when cuttings can not be rooted with care. Choose cuttings when the plants are most vigorous.

Cows giving milk rich in butterfats and the globules of which are large, will yield best at the churn and require the least exertion to get butter from the milk.

Stinting or half-starving young swine is the death of all profits, as it takes more feed to get such hogs rightly started anew than is required to grow to a finish a younger thriftier one.

True economy in farm matters is a wise use of resources, whenever a reasonable expenditure will increase the productiveness of the soil, improve the character of the stock or lighten the labor of taking care of the crops and harvesting them it is judicious.

The easier feed is digested the greater the gains made from it. The more hogs may be made to eat in a certain time the more profit. A pig six or seven months old if fed right is ready for market. The more weight that can be put upon him in that length of time the more profitable he is.

In nearly all cases the physical condition of the sow at breeding time determines the size of the litter. If the sow is in good condition and taking on flesh rapidly at the time of mating the results are generally good. But if the sow is poor and unthrifty the litter is likely to be small. If the sow is overfat and kept so the pigs will usually be weak.

The more rapidly an animal is fattened the less quantity of food is necessary to sustain its vitality. Liberal and abundant feeding is the most

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20 of our foundation cows average 601.6 lbs.
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Jean Du Luth Farm, : Duluth, Minn.

REGISTERED Gurnsey bulls old enough for service. Also a few heifers for sale. FRANK W. RICHARDSON, Garden City, Minn., R. 1.

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Will quote you special prices at any time on Angus Cattle, Feeding and Breeding Sheep, Shetland Ponies, Duroc Jersey Hogs, Wolf Hounds, Collies, Rat, Bird Dogs and other breeds, Angora Cats. All varieties of chickens, turkeys, geese, ducks, guineas, pheasants, rabbits, ferrets. Pets. Live Foxes, Skunks, Mink and Badgers.

Bixby's Red Polls

My herd bull, J. D. Merryweather, No. 24396, is the son of J. D. Millie, A. R. Grand Champion cow at Minnesota and Montana, in the 1915 show-ring and won the milk and butter contest with Guernseys, Jerseys and Brown Swiss competing with records of 600 pounds butterfat. J. D. Millie weighed 1280 pounds at thirty months old, and is full sister to the World's Champion two-year-old heifer. J. S. BIXBY, : LISBON, N. DAK.

HOLSTEIN AND GUERNSEY HEIFER AND BULL CALVES. Choice selected promising dairy calves, practically pure Holstein and pure Guernsey, but not registered, nice color. \$20.00 each, all express paid to any point in North Dakota and adjoining states. Order two, you will be so well pleased you will want more.—Meadow Glen Yards, Whitewater, Wis.

FOR QUICK SALE

Crowded for range, am compelled to sell 40 head of mares and geldings. Address Patrick McDonnell, Ennis, Mont.

ROCKY HILL SHROPSHIREs. Twenty-five head of registered ewes for sale reasonable. Also, a nice smooth bunch of ram lambs and a few aged rams. Ernest Palfrey, Hope, N. D.

MISCELLANEOUS

Dairying in Aitkin County Minnesota i.w. prove your royal road to fortune. Its soil, grasses, water, location, low prices and our say terms, are unequalled anywhere else. Write for literature. Orndol, Land Agent, 107 Wolvin Bldg., Du.uth, Minn.

LEARN TO SPEAK IN PUBLIC. We train men and women to be good public speakers. Money, position and prominence to be gained thru good platform work. Total cost is only \$5.00. We teach other things—send for outline. Prin. W. C. Moore, New Egypt, N. J.

WANTED. Live Foxes, Skunks, Mink and Badgers, any time. Envilla Stock Farm, : Cogswell, N. D.

WANTED to hear from owner of good farm for sale. State cash price and description. D. F. Bush, Minneapolis, Minn.

POWER FARMING. The magazine of farming with mechanical power. Send 10 cents for three months' trial subscription. *Power Farming*, Box C, St. Joseph, Mich.

economical and a saving of time in producing the same effect is a gain in the profit. One advantage in early fall fattening is lessened amount of food required to sustain animal heat.

When the sows and pigs get to eating regularly do not feed more than they will clean up before leaving the trough or feeding pen. When the sows and their pigs are all fed together with the aim to give all what they want to eat, there is a chance that they will carry more flesh than is really necessary and the pigs not do as well as they would if fed alone.

Variety of livestock on a farm, quite as much as variety of cropping is a source of wealth accumulation in the holding. With variety greater numbers can be kept and the best use can be made of all food by giving the quality suitable to each description of animal. Again, different va-

rieties of stock appropriate different proportions of ingredients from the soil and in this way several varieties do not exhaust it of any one ingredient in particular.

Horses are frequently troubled with brittle hoofs caused by a deficiency of animal matter in the bone. The horn becomes dry and granulated, and separates very easily, crumbling and splintering away until there is scarcely crust enough to fasten a shoe upon. Frequent washing of the feet with cold water with attention to the health and to give the horse clean bedding with an earth floor to stand upon will prevent or cure in many cases. Glycerine and water in equal parts is a good remedy to apply.

DAIRY AND LIVESTOCK SPECIAL

The Northern Pacific Railway Company, in cooperation with the Extension Department of the North Dakota Agricultural College and the North Dakota Experiment Station, will operate a dairy and livestock special train on the Stanton-Killdeer, Mott, and Linton Branches, and a few points on the main line west of Mandan may be included in the itinerary. This campaign will begin on Monday, October 9, and continue for about ten days.

Professor Thomas Cooper of the North Dakota Experiment Station will be in charge of the lecture and demonstration work, and the North-

and lectures will be given on the care and feeding of dairy cows, and the handling of beef cattle, and a wide range of topics pertaining to dairy cattle and beef cattle husbandry will be discussed. The speakers will be men of practical experience, and the subjects will be handled with reference to practical experience on the farms.

Announcements will be made later of the exact time the meetings will be held at the several places. All persons interested in the localities in the territory indicated who desire to have meetings held at their stations, and who are willing to co-operate in securing the attendance of the farmers in the neighborhood, are invited to write to Mr. D. E. Willard of St. Paul. It is planned to stop the special train and hold meetings only at places where active interest is expressed on the part of the local people, and it is therefore important that the matter be taken up at once.

It is the desire of the men from the Agricultural College and of the officials of the Northern Pacific Railway that all farmers and everyone interested in livestock in the territory where the train will be operated, shall co-operate in making these meetings the most successful possible.

AMERICAN MILKING SHORTHORN BREEDERS' ASSOCIATION

The first annual meeting of the American Milking Shorthorn Breeders' Association was held Wednesday, September 6, in the Livestock Pavilion at the Minnesota State Fair.

The Association is growing rapidly, and the prospects for the future are brighter than at any time since its organization. The membership numbers fifty-three, and includes the University of Nebraska, the Georgia State College of Agriculture, and the Michigan Agricultural College. One hundred seventy-six head of cattle have been registered and there are many herds under test, to be registered as soon as they have made the necessary milk records.

The following officers were elected for the coming year: Professor Thomas Shaw, President, 2135 Knapp Street, St. Paul, Minn.; John Logsdon, Vice President, Waterville, Ia.; E. A. Willson, Secretary, 812 N P. Ry. Building, St. Paul, Minn.; D. E. Willard, Treasurer, St. Paul, Minn.

CORN AS A STOCK FEED

Once a successful livestock grower has had the good fortune to have corn in any one of its several forms to



Purebred Registered HOLSTEIN CATTLE

The "Dairy Belt of the Northern States," so called in the past by various writers, has vanished. Holstein-Friesian cattle will thrive anywhere, and they are thriving and adding to the fortunes of mankind all over the nation, north, south, east and west. Big, hardy, healthy, consuming enormous quantities of feed and roughage, and transmuting it into large quantities of milk, Holsteins have proven to all the world that they are the dairy breed in all ways best suited to serve man, wherever he calls his home. There's big money in the big "Black and White" Holsteins. Seed for FREE Illustrated Descriptive Booklets Holstein-Friesian Association of America F. L. Houghton, Sec'y Box 267, Brattleboro, Vt.

PLEASANT GROVE FARM REYNOLDS, N. D.



Grand Forks Co., N. D., offers some of the finest registered Shropshire and Hampshire and Oxford Rams for sale. Better order now before they are all sold. Write to R. E. Strutz, Bismarck, N. D.

PHOTO POCKET CUTLERY and Farm Implements. Catalog free. EMIL BRISS COMPANY, Neenah, Wisconsin.

Fence Posts and Small Telephone Poles, Direct from Producer to Consumer. Pay after Inspection. Save Middlemen's Profit. Prompt Service, Personal Attention. Write for Delivered Prices in Carload Lots. Becker & Vogel, Clarks Fork, Idaho.

FARMS OR BUSINESS, any kind, anywhere. We locate you free, deal directly with owner. Send for our free magazine. Western Sales Agency, Minneapolis, Minn.

Young Man, would you accept a tailor-made suit just for showing it to your friends? Then write Banner Tailoring Co., Dept. 411, Chicago, and get beautiful samples, styles and a wonderful offer.

WANTED: To hear from owner of farm or unimproved land for sale. O. K. Hawley, Baldwin, Wisconsin.

WANT TO BUY LAND? Get in touch with our Company. Cut out the middleman. Maps. Prices. Literature. Arnold, Land Com'r, 509 Wolvin Bldg., Duluth, Minn.

MISSOURI AUCTION SCHOOL
FREE CATALOG KANSAS CITY, MO.



Wanted: 1000 of these in North Dakota

ern Pacific Railway will be represented by Mr. D. E. Willard, Development Agent.

Representative animals of both dairy and beef types will be carried on the train. Lectures and livestock demonstrations will be given by specialists at each place where meetings are held. The animals will be unloaded so as to afford an opportunity for all to see them and study them, and opportunity will be afforded for asking questions and general discussion.

Special attention will be paid to demonstrations on the actual animals,

feed, he never wants to be without it. As a single feed adapted to all purposes and all classes of livestock has no superior. As an economic feed for fattening all classes of farm animals it has no equal. It was but natural that corn should follow the introduction into North Dakota of corn belt settlers and corn belt types of livestock.

Corn is used as a grain when ripe for feeding especially animals that are being fattened. In its most economical and profitable form it is used as silage when it is suited especially to growing cattle and milk cows. Where it is not economical to place it in silos fed as dry fodder it makes an excellent substitute for hay for all classes of stock. One of the newest uses and probably the most economical and profitable method of utilizing the corn crop is to pasture it off in the fall immediately the grain is ripened with fattening hogs or sheep. In some sections fattening cattle are pastured in the corn with the hogs. In composition and digestibility corn is one of the richest and most highly concentrated of the grains. Corn as a grain compared to oats contains practically the same amount of dry matter, tho a little less protein, but is higher in both carbohydrate and fat content. As silage it is highly digestible, palatable and in that form used, of course, as a roughage it yields ordinarily even in North Dakota more feed per acre than other crop grown within the state. As fodder with the ears husked out it makes a roughage far superior in palatability and feeding value to oats straw.

Total percentage digestibility of the dry matter in corn as grain is 90%, oats 70%, corn silage 66%, corn fodder 66%, timothy 55%, alfalfa 60%, oats straw 54%.

The composition of corn is such that for many purposes in feeding a palatable, balanced and successful ration can be made from the corn plant alone. It is when corn is used in proper amounts as a part of the ration, however, that the greatest growth and gains are secured from it. Corn as a grain when feed to growing stock, work horses and milch cows gives the best and most economical results when it composes from one-third to one-half the grain ration, the remainder of the ration being made up of oats or bran or a mixture of oats and bran equal parts. If alfalfa or clover hay is used as a roughage in connection it is not necessary to use any high-priced concentrate high in protein content but if the roughage used is timothy or prairie hay young growing animals should receive about 10 per cent of some high protein concentrate, such as linseed meal, cotton-

seed meal or gluten feed. Where corn is used in feeding young growing pigs some shorts or finely ground oats should be used with it and if skim milk is not available when the pigs are young the ration is greatly improved by the addition of 10 pounds of digester tankage to 90 pounds of the grain mixture. To fattening animals, especially where a short feeding period only is to be used corn can be used alone as the only grain with very successful results. If the fattening is to be continued until a very high finish is attained some protein concentrate should be added to the extent of about 10 per cent of the total amount of grain.

In sections where corn is grown corn silage is the most economical feed for milk production known to the dairy men. The succulence, palatability and nutrient content of it seems to be just what the cow needs in the manufacture of milk. Here again silage alone is not the proper way to feed. Some hay should be used with it and to secure the greatest profit from a group of good dairy cows of the strictly dairy type some grain should be also fed. The average dairy cow will give the most economical return in milk and butter fat in winter when receiving a ration about as follows: corn silage 70 pounds per day, alfalfa or clover hay 8 to 12 pounds per day, a grain mixture of ground barley or corn one-third, ground oats, one-third and bran one-third—fed approximately at the rate of one pound of the grain mixture to each three and one-half pounds of milk the cow produces per day. The above facts probably throw some light on the point as to the reason why many farmers are persevering so stubbornly in their effort to grow corn successfully in North Dakota and the reason why more farmers would do well to give the corn crop a prominent place on their farms, for the fact that with the application of intelligent methods of profitable corn crop can be grown on any farm in North Dakota, has been thoroly established.

FEEDING OF RUSTED STRAW

The feeding value of rusted wheat in the straw is mighty variable and depends almost entirely upon the amount of grain in wheat heads. Healthy wheat straw is poor feed and badly rusted wheat straw, on the average, is no better and in many instances, not as good as bright straw. Wheat straw that is very badly rusted seems to have very little substance in it and stock do not commonly find it palatable. Shrunken wheat is good feed and the plumper the berry, the

greater the feeding value. To decide the feeding value is a matter of estimating the quantity of wheat grain a given lot of straw contains. The wheat grains may be so thin that they have little feeding value. They may be equal to bran and shorts, or they may be still more plump and represent a greater feeding value.

So much rusted straw has been fed in past years when rust scourges occurred and no serious effects have resulted from it that it would seem that there is little risk in feeding it to livestock.

The veterinarians have recorded a few cases of sickness or disease in the history of their experience which they think have been caused by animals eating an excessive amount of grain rust. They generally advise that a little of some other roughage be fed to livestock that are getting rusted straw. They also suggest that stock be changed gradually to a ration of rusted wheat when you begin feeding it and that the dust be shaken from the rusted straw as much as possible in handling it before it is fed to stock. They suggest further that a close watch be kept of the animals and changes made to some other feed if sickness occurs that does not come from some other cause.

Last Chance

The price of magazines will advance after November 10th.

1. For \$1.00. North Dakota Farmer (\$.50), Rotary (\$.50) and Pathfinder (\$1.00), Total \$2.00. Save \$1.00.

2. For \$1.50. North Dakota Farmer (\$.50), Forest and Stream (\$1.50) and Boys' Life (Boy Scout Magazine) (\$1.00). Total, \$3.00. Save \$1.50.

3. For \$1.90. The Etude (\$1.50) McCall's and pattern (\$.65), Today's and pattern (\$.65) and North Dakota Farmer (\$.50). Total \$3.30. Save \$1.40.

4. For \$2.65. Mothers' Magazine (\$1.50), North Dakota Farmer (\$.50) Etude (\$1.50) and Pathfinder (\$1.00). Total \$4.50. Save \$1.90.

5. For \$3.00. North Dakota Farmer (\$.50), Review of Reviews (\$3.00), Rotary (\$.50) Pathfinder (\$1.00) and Boys' Magazine (\$1.00). Total \$6.00. Save \$3.00.

If you don't find what you want, get a special quotation on what you do want. Address before November 10th,

NORTH DAKOTA FARMER
LISBON. : NORTH DAKOTA



Poultry Department



POULTRY FROM A MEAT STANDPOINT

Michael K. Boyer

By proper feeding and care, twelve weeks will be the proper broiler age, and this will be a means of turning the stock into money quickly. By having continual hatches, there can be a shipment made each week.

Laying hens, marketed at two years of age, if well fattened will make the choicest roasters. There is a good demand for them.

Talking about roasters, there is no better small roaster than the Plymouth Rocks. At four to six pounds each they sell best in market. For a large roaster our famous Light Brahmas are in the lead.

For broilers, three pounds to the pair is the most popular weight.

The Langshan is a remarkably good roasting fowl, but there is a prejudice in our American market against a white-skinned fowl, and for that reason it does not compete with our American breeds. But for all that, the Langshan has a flavor to its meat that is not equalled by any other breed, and it comes close to that of a turkey, with the improvement that it is not so dry as turkey meat.

An attractive broiler should have a full breast, a broad back and a plump body. Such carcasses find quick sales, while the poor looking specimens are a loss to both the shipper and the commission merchant.

The refrigerator trade allows speculators to palm off frozen and thawed out stock, to an unsuspecting public, as fresh, but refrigerator-stock is not in competition with choice fresh birds, when placed in the same market.

Quality, rather than weight, fixes the price of dressed poultry, and clean legs, free from feathers and small combs—while they do not add to the quality of flesh, do add to the appearance of the carcass, especially in the case of broilers.

The carcass most in demand is a broad body, deep and full breast, legs wide apart, legs and neck rather short than long.

The middle of July is pre-eminently the season for spring chickens. The delicious broiler is then at the lowest price. Fried chicken was the delight of old Southern cooks of ante-bellum

days, and was served with the sweetest and lightest of pond bread.

A well-fatted, six-months-old bird, raised artificially, and then confined, will have a large breast, and the sinews of the legs and wings have not been developed by violent exercise. Young fowls allowed to range and care for themselves are apt to be tough at an early age.

In our country yellow legs control most purchases of fowls for the table in their selections. The shape of the body which comes on the table is ignored in favor of the color of the legs, which are cut off and become offal. It is a truth that there exists no breed of fowls bred for table poultry in all the long list of American productions, save one; and in the wide world there is no distinctive table fowl with yellow legs. American lovers of roast fowl must give up their fancy for yellow legs or forage the choicest of table poultry. The yellow leg business is a nonsensical fancy. The uneducated gormand who calls for yellow-legged chickens would never think of calling for yellow-legged quail or turkey, or canvas back duck. The choicest of all our wild game fowl do not have yellow legs.

"Fresh and Choice" has an important meaning in market poultry. A "large roaster" means a plump, soft chicken of four or five pounds dressed weight. The broiler weight in March is one and one-fourth pounds each, dressed; April one and one-half pounds; May one and one-fourth to two pounds. Old cock birds have a special classification in market, and do not come under the head of "large roasting fowls."

Broilers shrink about a half pound each when dressed.

"Squab broilers" must not exceed three-quarters of a pound dressed. They sell best during January and February. The increase of the squab-pigeon business is hurting the "squab broiler" boom.

Fine bone indicates fine grain and excellent quality to the meat. All the best table fowls have fine bone but a pair of strong, heavy legs under a fowl indicates strength hardness. To breed for the table, the hens may be rather stout, but the cock should always be fine in bone.

Chickens two pounds or under are known as broilers (in some sections of Pennsylvania they are called barbeques). Over two pounds in weight, up

to four, they are classified as spring chickens. Over that weight they go as stewing or roasting fowls. Broilers in some parts of the country are also known as frying chickens. The spring chicken is introduced about April. It is the broiler's substitute.

POULTRY POINTERS

Enoch J. Peterson, N. D. Experiment Station

Feed the birds a well-balanced ration and allow them to molt naturally. Sunflower seed will help to make the feathers grow and also will help to make them glossy and attractive. A good laying ration ought to be a good feather growing ration. Supply plenty of grain food and some meat. Give them shade and keep them free from lice.

The greatest number of eggs are laid during the pullet year, and the next greatest number the year following. On the average farm it is not profitable to keep a bird for egg-production after her second year unless she is especially valuable for breeding purposes.

The pullets should be put in their winter quarters at least a month before they are expected to commence laying. In order that they may become accustomed to their new quarters. Only strong, vigorous birds should be put in the laying pen. Keep everything around the poultry house sanitary. Before the pullets are put in the laying pens the house should be given a thorough cleaning. Spray the interior of the house with a good disinfectant. Bear in mind the old saying "An ounce of prevention is worth a pound of cure." A large proportion of the poultry diseases are due to improper feeding. Feed nothing but foods that are in good condition. Keep the drinking water pure and fresh.

White and Columbia Wyandottes, Light Brahmas, and S. C. White Leghorns Over 30 years a breeder. Stock and eggs for sale. MICHAEL K. BOYER, Box 27, Hammon, New Jersey.

Quality White Rocks

Hatching Eggs and Stock in season. We have the Best. O. A. Barton, Valley City, N. D.

BARRED P. ROCKS

Big, Strong, Prize-Winning Stock
Hawkins, Bradley Strain
Eggs and stock in season at very reasonable prices.

PERCY BEALS

BOX 736 : : FARGO, N. DAK

School and Home

SOME OF THE SIMPLEST PRINCIPLES OF AGRICULTURE

By Chore Boy

Weeds

Weeds are plants that are able to grow where they are not wanted. The weed plants have great powers of fighting other plants. Many weeds can grow when the conditions are such as to cause other plants to suffer. Russian thistle can grow when it is too dry for grain crops to do well. Then, again, there is a weed for every part of the growing season.

Weeds do damage to crops by using up plant food and moisture that the crop needs and by crowding and shading the crop. The weeds take the same kind of plant food that the crops do. Whatever the weed takes is lost to the crop and the only thing the crop can do is to produce less. The amount of water used by weeds is much greater than one would believe who has not investigated it. It has been found for conditions similar to those in North Dakota that a weed that weighs a pound when dried has used up 600 to 800 pounds of water in making its growth or nearly two barrels of water, and smaller weeds in proportion. It would be a small weed that did not use up a pail of water. From this it becomes plain that getting rid of weeds is one way of giving the crop more moisture.

Plants need sunshine in order to grow. If weeds crowd too close the plants will be shaded and their growth reduced.

Some weeds lower the value of a crop. In North Dakota seeds containing quack-grass can not be sold and it is impossible to remove the quack grass seed from such seed as brome grass; in fact, it takes an expert to even tell the difference. Grass seed containing weed seed is worth less than clean grass seed.

When wheat contains weed seed it is docked, which means that no pay is received for the weed seed, yet it took the same kind of plant food and moisture to produce the weed seed as the wheat. Growing weeds is surely a poor use to make of the plant food and moisture, when the wheat plants would have made wheat of it if the weeds had not taken it from them.

Weeds are divided into three classes, annuals that grow from seed and produce seed the same year, as wild

oats and pigeon grass; biennials that grow from seed but do not produce seed before the second year; and perennials which live several years. In addition to producing seed many of these will grow from the roots (underground stems).

In eradicating weeds they must be taken at their weak point. For the annual and biennial weeds this is to keep them from producing seed. (In the prairie regions weed seed may blow from farm to farm). This would seem to be simple enough. The trouble comes in when the same crop is grown several years. Wild oats growing in wheat for instance, ripens its seed before the wheat is ready to cut. Some of the wild oats shatter and reseed the land. The longer wheat or oats are grown the more wild oats. If a crop of corn is grown and clean cultivated the weeds are finished, still some of the weed seed that are buried over five inches deep may grow the next year if plowed up.

A hay crop is also hard on weeds as it is cut before the weeds have time to ripen seed.

The biennials are easier eradicated than the annuals as they have to be left undisturbed two seasons in order to produce seed. This means that this class of weeds can not trouble grain crops but can live in meadows, pastures and wasteland.

The perennial weeds are the hardest to control. Quack grass and Canadian thistle are good examples of this class. They spread both by means of seed and by the root or more properly underground stem. This has joints and each one of these joints can start a new plant. The more these underground stems are cut into pieces the more plants will form. If a piece of this underground stem is carried by the plow or harrow to some other part of the field it will likely start a new plant. New plants can start from these joints when they are a part of the plant. A patch of quack grass or Canadian thistle always gets larger in this way.

These weeds are hard to get rid of. A small patch can be covered with tar paper, but for a large patch this will not do. These plants store nourishment in the underground stems. At blossoming time it draws on this nourishment, so that the plant is weakest about this time. Mow these weeds at this time, plow thoroly so as to keep the plants from getting up, for

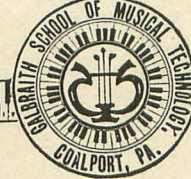
if they are allowed to form leaves they will take fresh hold. In fact, it would be a good deal like drowning a cat by letting it up to the surface to get air once in a while. If no plants are allowed to come up after the blossoming season till freeze-up these weeds will be dead. In some cases these weeds have been killed by smoother crops as buckwheat and alfalfa.

This is too late to find many weeds growing, but identify those that you can find. Send them to the Agricultural College if you can not find out in any other way. This is a good time to find the weed seed in grain and grass seed. See how many of these you can recognize. If you have trouble the Agricultural College will be glad to help you.

Find out how much your father's wheat was docked on account of weed seed. Then remember that most of the weed seed likely shattered out on the field. This will give some idea of how the weeds reduce the crops. The weeds are growing during the whole summer season. Do you remember how green the fields were after the grain crop was cut? These weeds were taking moisture out of the soil that should be left in the soil for next year's crop. Weeds are mighty robbers, learn how to swat them.

Conservation

Conservation means saving and not wasting. Conservation in forestry means cutting out the full grown trees but leaving those that are not large enough so that they can grow. Con-



MUSIC TAUGHT FREE

Learn to play the piano or organ at home in an hour. In order to demonstrate the simplicity of our newly invented system of teaching music, and also as a **COMPARISON**, in case you or perhaps your neighbor, may be in possession of some other so called method. We have decided for a period of short duration to send absolutely free to any address sufficient music along with a part of our wonderful Scale Indicator, by the use of which we can prove to the mind of the most skeptical, that we teach by position of **REAL NOTES**. Now ask yourself honestly should I spend the price of a postal card as an investigation, or do I want to find myself in the "dissatisfied class" looking back upon neglected opportunities.

Write to-day.

GALBRAITH SCHOOL OF MUSICAL TECHNOLOGY COALPORT, PENNA.

servation in farming means handling the land so as to secure the best returns without reducing the crop producing power of the land. A one-crop system soon brings the land into a condition that it will not produce good crop. While a rotation of crops will keep up the production of the land. When a crop is fed to livestock most of the plant-food is returned in the manure. When this is put on the land some of the plant food taken out by the crop is returned.

Conservation for boys and girls means that they be furnished the food that makes them grow; the clothing and homes to keep them comfortable and work that is not hard enough to hurt them. When they have these conditions they will grow up to be strong, healthy men and women. If they do not have these things they may never be strong and so can not be the most useful in the world or get the most pleasure out of life.

In running a race conservation means running rather slow at first so that one will not use up all one's energy at first and then not be able to stay in the race to the end.

The Indians practiced conservation with the buffalo and all kinds of wild animals. That is, they killed only what they needed. In this way they left plenty of buffaloes and game for the Indians that came after them.

The white man did not practice conservation. He shot as many buffaloes as he could; wasted them, and the result was that the buffaloes were soon gone.

Conservation with machinery means taking good care of it so that when it is wanted it is in the best condition. Leaving a machine standing out all the year round is not conservation.

Putting a colt at hard work when too young is not conservation, as it will hurt it so it will never be able to do as much work as it would otherwise be capable of doing.

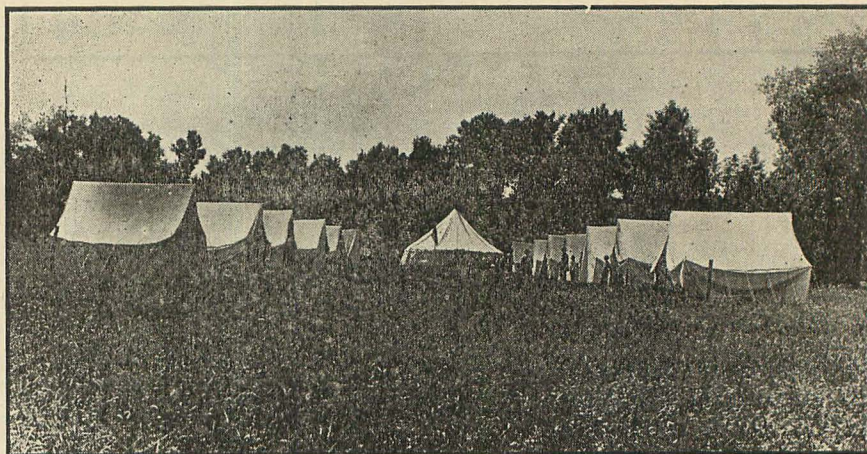
For instance, a month or two of work when the colt is too young to work may reduce its working power for the eight or ten years that the horse should be capable of doing its best work. It is plain that it will not pay.

Conservation means using things so as to get the most of them in the long run. Killing the goose that lays the golden egg in the hope of getting rich at once is just the opposite of conservation.

Better send to North Dakota Farmer for weeds of the Northwest. Price 10 cents a dozen postpaid.

BOYS' ENCAMPMENT AT MANDAN, N. DAK.

JULY, 1916



Sleeping Tents and Dining Tent

A group of Morton County boys spent a week in camp near Mandan. This outing was planned by County Agent Gaumnitz and County Superintendent Lorin. Fun and education were both provided for. The camp was located on the Mandan Chautauqua grounds which joins the Heart River, this provided a swimming place. The Chautauqua programs provided music, lectures, motion pictures, and singing. Baseball was also played.

ing halts. Several other knots were also mastered.

Governor Hanna gave the boys an interesting talk on his trip to Scandinavia and Germany.

In the afternoons from 1:00 to 4:00 trips were made to places of interest as: the Great Plains, Experiment Station, the Penitentiary, the Reform School, the flour mill, the railroad shops, the Mandan Indian Burial Grounds, and Old Fort Lincoln.



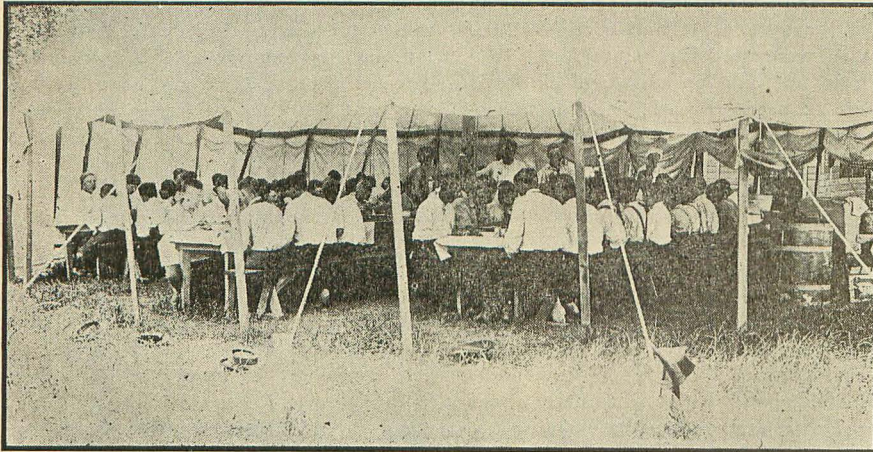
The boys were taught making knots and splices

Lectures and demonstrations were given on the following subjects: horses, cattle, pigs, relation of livestock to farming, calf feeding, cattle feeding, herd records, pig records, rotation of crops, hog cholera, and rope work. In the live-stock work animals were used to illustrate the points made. In the rope work each boy was given a piece of rope, first the wall knot was mastered, then the splice. This laid the ground for mak-

The boys did all the work in connection with the camp except the cooking. A squad of ten served each day at waiting on table and dish-washing. This not only got the work done, but it gave the boys an idea of the work that there is in carrying water, clearing tables, washing dishes, peeling potatoes, shelling peas, etc. It gave the boys a more wholesome respect for the work that usually falls to mother's lot.

Coming to the Encampment opened up a bigger world to these boys. The contact with big men and women at the Chautauqua and in the classes and lectures was a broadening influence.

The acquaintances formed with other boys in the County will enlarge the social life of the boys. Encampment week proved a very busy and profitable week.



A busy time in the dining tent

A FORECAST OF THE FALL STYLES

Suits Show Interesting Variety in Fabric, Cut and Color

Fur to the Front Again

Before very long, thin summer frocks and light suits will have to be put

away for the heavier fall garments to take their places. It often happens that the first chill winds catch us unprepared, and certainly there is nothing more upsetting than to realize that we had not given a thought to the coming of fall and were, consequently, not ready for the change in the weather.

The autumn styles are already well established, so no one need be afraid to make her selection in suits and gowns early, for there is no danger that they will not be in good style later. The suit models that have come over from Paris are as attractive as they can be. The coats are mostly three-quarter length and some of them are shorter. They reach to the hips,

the finger tips or the knees. The skirts are quite full; just as full as they were last fall, but not so flaring. The lines are straighter, as a rule, and the skirts just a trifle longer than they have been worn in the past seasons. Strictly tailored suits, of course, do not have very wide or long skirts.

Among the coat styles there are some Russian effects seen, which most women will be happy to learn. One of the favored models is fitted above the waist and quite full below it, and there are many variations of this idea.

A suit that gives promise of being very well liked on account of its generally becoming lines is illustrated here. It has deep pockets which are cut in one with the fronts of the coat, and a narrow belt going around the sides and back, but not the front. The skirt that completes this suit has pockets corresponding in cut to those on the coat.

In the other suit shown here, there is a suggestion of the Empire style, the return of which we have been hearing so much about lately. It comes in a modified form, having a panel in the front and back, and is certainly most attractive.

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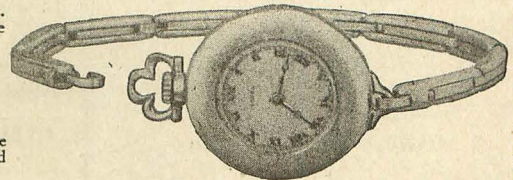
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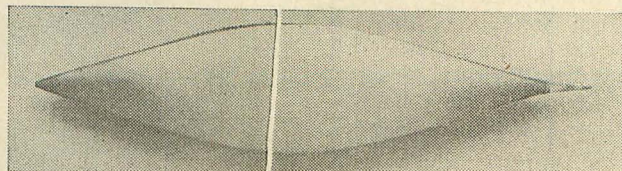
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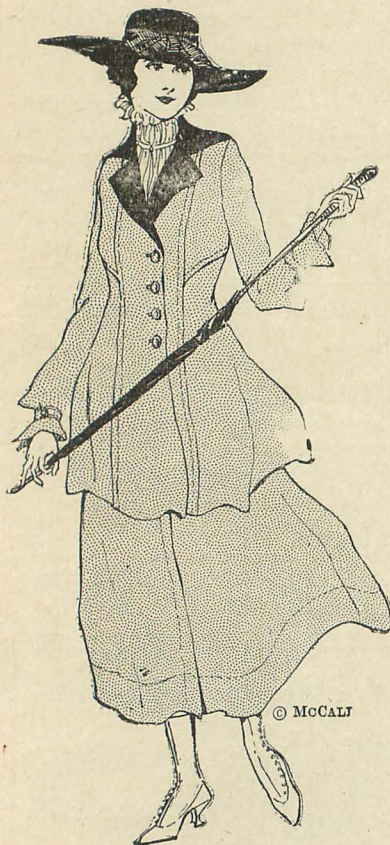
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A wonderfully smart suit from Paris was made of navy blue gabardine, with a very long, full coat. The skirt also was very full. It extended up above the normal waistline, where it was attached to a blouse of brown and black checked silk with small checks. The coat was lined with this silk, and when thrown open the effect of the whole costume was very striking.

Suit Fabrics and Colors

There are charming suit materials for fall, which will perhaps make it difficult to decide on what to get. Besides the old stand-by, serge, there is its staunch companion, gabardine; then there are wool poplin, wool velours, broadcloth, cheviot, mixtures, and many fancy twills and suitings. For dressy wear, velvet, velveteen and



A Modified Empire Style

satén will be very much in the foreground. The checked wool velours are very stylish in two tones, as, for instance, black and brown, tan and brown, and gray and brown. They are most practical, too, for they wear very well. The fashionable self tones are navy blue, dark brown, green, taupe, gray, burgundy, and black.

Fur for Trimming

Did any woman fear that the fur on her suit last winter would not be fashionable this year? If so, let her fear be turned into joy, for fur is to be used even more lavishly than it was

last winter. The bands of fur on skirts are wider, the fur collars on coats just as high, and the cuffs on the sleeves just as deep. Rabbit and skunk are the furs most commonly used, and there are also Hudson seal, fox, lynx, moleskin and ermine all of which were used last winter.

And not only on suits and cloaks is there to be an abundance of fur trimming, but also on evening gowns. Even the very sheerest fabrics, such as net, Georgette crepe and chiffon, are to be decorated with fur. A very stunning evening dress of net had the skirt edged with a deep band of fur. The dress itself was elaborately beaded. Beaded fabrics, metallic embroidery and sequins are extensively used on evening gowns. The wonderful effects and beauty of these under the lights can readily be imagined.

WHAT YOU GET FOR YOUR MONEY WHEN YOU GO TO MARKET

Charles Cristadoro, Pt. Loma, California

ALL foods are valuable, if digestible, if of the right kind, the right constituents, the right proportions, rightly cooked and eaten in the right quantities and at the right time and, incidentally, bought at the right price.

We will begin by subdividing the constituents of cow's milk and with this more or less naturally balanced food the following tables of food values can be compared or studied.

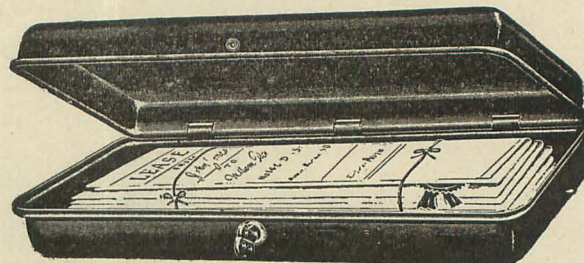
Cow's milk is not all water by any means, for if it contained no water it would be the most condensed or concentrated of all foods. Roughly milk contains seven parts of water and one part of solids, the latter being made up of cream, casein and albumen (milk curd) milk sugar and mineral salts.

The eighty-seven per cent of water in milk is for replenishing the fluids of the body. The seven-tenths of one per cent of mineral matter is for keeping in repair the bony structure of the body. The curd, three and three-tenths per cent keeps in repair the muscles, tendons, skin, hair and nails. The milk sugar, four and nine tenths per cent and the cream or butterfat, four and one-tenth per cent produce heat and fat in the body. So the rebuilders in milk are represented by the nitrogenous and mineral matter, four parts, this being energizing matter as well. Then comes the fat and heat producers, energizers only, as distinct and separate from the rebuilders, reconstructors, the milk sugar, cream or fat, nine parts. So the food balance in cow's milk is four parts of rebuilders to nine parts of energizers, the rebuilders being energizers also. Cows's milk is a good basis to work from in the matter of figuring and comparing food values as it contains all the constituents required to nourish the human body and sustain life.

The most valuable constituent in food is the protein, the nitrogenous matter, the caseins, fibrines and albumens, because these constituents perform the dual purpose of rebuilding and energizing, and, remembering this, note the figures in the following table. Ordinary lean meat costing twenty-five cents per pound, the protein it contains costs you at the rate of one dollar and sixty cents per pound and the energizers, calories, at the rate of twenty-five cents per thousand, the beef costing 25 cents per pound originally. Here is the table.

	Cost pr lb.	Cost of protein in the m't	Cost of protein per 1000 lb. en's
Beef.....	\$.25	\$ 1.60	\$.25

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about when the price is advanced. The table shows milk to be far cheaper than beef as a food. The public does not give the dairyman a fair run for his money.

Cheese is a more or less neglected food, and yet it is one of most important foods, both as an energizer and a rebuilders, and in expense it compares most favorably with beef.

A hard-boiled egg may seem to be solid food but it is far from it. It contains over 70 per cent of water, the yolk holding 50 and the white 85 per cent more or less. The protein in the yolk is 15 and the white 12 per cent. The yolk is comparatively rich in fat, 33 per cent. An egg is six parts white, three parts yolk and one part shell. The protein and energizers are both more costly than in beef. Bread and milk may seem, unlike beef and eggs, never to vary in price in the market. A bottle of milk may hold a quart and the price, if advanced at long intervals, remains the same for a more or less fixed period. But the pint always remains a pint and a quart a quart. But if wheat, for any reason, sharply advances the price of the loaf remains the same, 5 cents, but a sixteen ounce loaf shrinks to 14 or 13 or even to 10 ounces. Milk is the one food that the public really makes trouble

Our list is a small one but nevertheless a representative one, and there are more foods and yet more foods.

The following recipes for Poultry and Game are adapted from the re-

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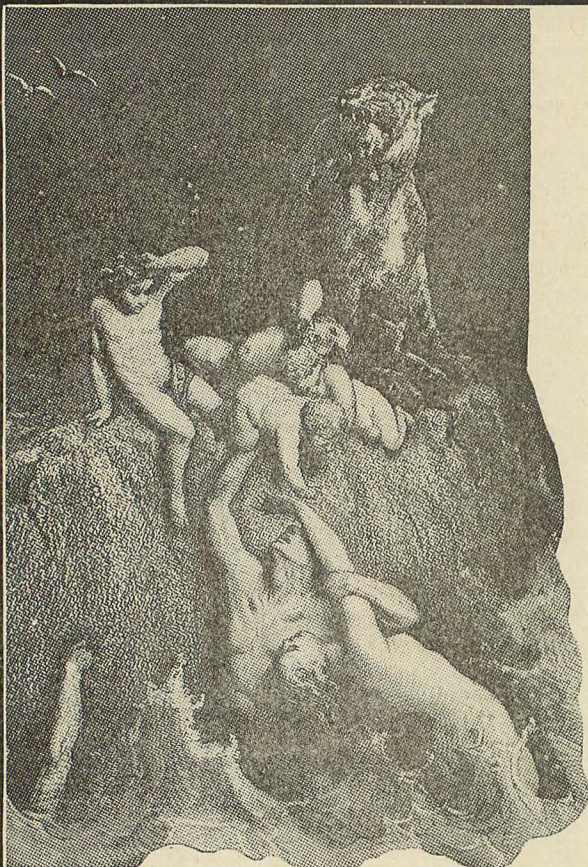
cipes for meat canning furnished by the U. S. Government Canning Experts:

Recipe No. 1. Kill the fowl and draw at once; wash carefully and cool, cut into convenient sections, boil until meat can be pulled from bones, remove from boiling liquid and remove meat from bones, pack closely into glass jars, fill jars with hot

liquid, after it has been concentrated one-half, add level teaspoonful of salt per quart of meat for seasoning, put rubber and cap into position, not tight and sterilize three and one-half hours in a boiler of pail fitted with a false bottom and a tight cover. Water in this sterilizer must cover top of jar at least an inch. Remove jars, tighten covers, invert to cool and test the

joints.

Recipe No. 2. Kill fowl and, draw at once, wash carefully and cool, cut into convenient sections and pack at once into glass jars, fill with boiling water, add level teaspoonful of salt per quart, put rubber and cap in position, not tight, and sterilize 4 hours. Remove jars, tighten covers, invert to cool and test the joints.



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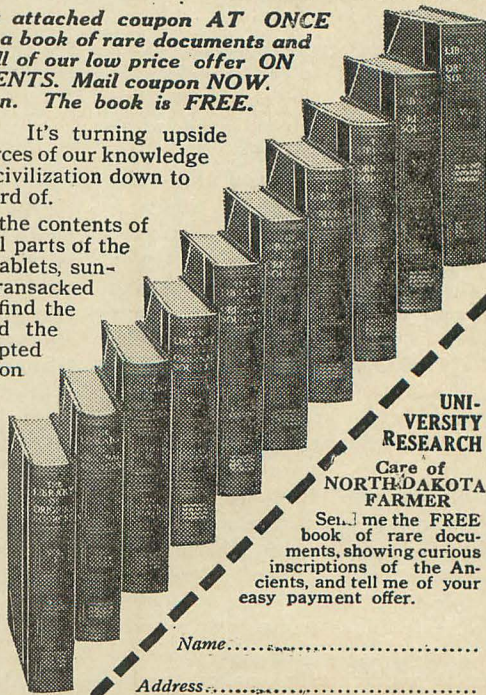
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Seasonable Receipts

Mrs. Sadie Baird, Editor

Uncooked Cold Catsup

One peck ripe tomatoes peeled without scalding. Chop fine. Add one and one-half cups salt and let stand over night; drain and add: two cups celery, chopped fine; 2 cups onions, chopped fine; 3 red peppers, chopped fine; 2 cups brown sugar; 3 cups best vinegar; (2 teaspoons black pepper) or one-half teaspoon red pepper and 2 teaspoons cinnamon.

Corn Relish

10 cups sweet corn, cut from cob (canned corn may be used, 10 cups cabbage chopped fine; five large red

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peppers, chopped fine; two quarts vinegar; 3 tablespoons salt; one and one-half cups sugar; 4 tablespoons white mustard seed; 2 tablespoons celery seed. Mix thoroly and cook one-half hour.

Fargo Brown Bread

One heaping cup each of rye, Indian and graham flour, one small cup molasses, two cups sweet milk, one cup sour milk, one desertspoon soda, salt. Put over to steam while the water is cold. Steam four hours and dry in the oven.

Brown Bread

Two cups sour milk, one cup N. O. molasses, one tablespoon soda dissolved in sour milk, salt, raisins to one's liking, whole wheat flour enough to make mixture a little stiffer than cake. This will fill four baking-powder cans a little more than half full. Put covers on and bake one hour. Do not remove from cans until partly cool.

Oatmeal Gems

To one cup oatmeal soaked in one cup of water over night add one cup white flour, two teaspoons baking powder, two eggs, one-half cup sweet milk, one-half teaspoon salt.

Watermelon Pickle

One gallon rinds, two teaspoons salt, water to cover. Boil until tender, drain. Syrup: one quart vinegar, three pints sugar, boil to a thin syrup. Mix two teaspoons each of whole cloves and stick cinnamon with rinds; pour on boiling syrup. Scald syrup each morning for three or four days.

Sweet Tomato Pickles

Seven pounds fruit, three pounds sugar, one pint vinegar. Take whole green tomatoes, small size, stick each one with three or four cloves. Make the syrup and put the fruit in and cook slowly until very tender. Take out fruit and boil down the syrup until very rich and pour over. They do not have that green tomato taste; are almost transparent and should be about the size of a peach.

Quince and Cranberry Jelly

For four quinces use one quart of cranberries, cook together and strain. Add sugar and cook as any jelly.

Mustard Pickle

Two quarts small cucumbers, 2 quarts small onions, 2 heads cauliflower, 2 quarts small green tomatoes, 6 green peppers sliced; celery and Lima beans are good. Put all in a weak brine, let stand 24 hours. Drain and scald in water.

Pickle: 6 tablespoons ground mustard, 2 tablespoons tumeric, 2 cups sugar, 1 cup flour, 2 quarts vinegar. Stir well and cook until thick. Pour over drained pickles.

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